Bidding Method for Internet/Wireless Advertising
and Priority Ranking in Search Results

Field of the Invention

The present invention concerns a bidding method used to prioritize advertising and search result listings delivered to users of the Internet and Internet related devices and services.

Background of the Invention

Advertising supports most Internet directory services and many entertainment and information sites. Examples of advertising supported directory services include GoTo.com and Yahoo.com.

In addition to receiving income from sales of banner ads and derivatives, GoTo.com receives income by charging for priority ranking in response to key word searches on a pay-per-click basis. Pay-per-click introduces a method for organizing sponsored listings. Other methodologies are used for listings that have not been sponsored. When a user performs a key word search at the GoTo.com web site, the initial ranking of results is determined by an amount pledged by the listing entity with respect to the given key word. If a user clicks on the entity's listing, the entity pays GoTo.com a specified amount. The more the entity pledges to pay for a click derived from a search of a given key word, the higher its listing will rank in GoTo.com's search results for that given key word. The cost per click is disclosed to the user in conjunction with the entity's listing. The advertiser must "buy" each key word for which it would like priority ranking in search results – buying the key word "hotels" does not confer value on more general key words such as "travel" or "vacations".

Unlike GoTo.com, Yahoo.com utilizes human editors in conjunction with computer algorithms to organize and prioritize listings for pre-determined categories. Yahoo's method incorporates cross-referencing. General key word searches produce top-level category listings. Users are required to climb down a tree step by step to find the specific information they want.

Higher value advertising may support higher value goods and services. A user may therefore have an interest in receiving higher value advertising. US 5,974,398, Hanson et al., discloses a bidding method wherein an advertiser bids a dollar amount that is paid to the user in return for receipt of the user's attention; the amount the advertiser has bid is disclosed to the user. When a user selects a given bid an advertising message is communicated to the user and the user earns the amount bid by the advertiser. In rewarding a user for his attention Hanson's method is similar to that disclosed by US 5,794,210, Goldhaber, et al.

Listings and advertising may also be correlated to a user's location. Go2online.com and affiliated Go2-branded web sites are sources for geographically oriented search results and can correlate results to a location specified by the user. Listing entities can pay for priority ranking.

Another method for correlating advertising and search results to a user's location is disclosed in US patent application #09/703636 by Marks et al. The method disclosed by Marks et al. correlates advertising messages to the geographic location of a wireless transceiver on a cellular network in conjunction with a bidding system. The Lucent Wireless Data Gateway is method for locating a user device within a cell zone on a wireless network and may be used for targeting advertising messages and search result listings.

In wireless environments, whether information is supplied graphically to a screen of a hand held device or audibly through a speaker, the need for prioritized search results is particularly acute.

Summary

The present invention provides a system for prioritizing the presentation of one listing relative to another listing by comparing an amount bid on a descriptive handle that is attached to each listing. The value of the descriptive handle determines the level of priority accorded to the listing.

A descriptive handle is comprised of one or more key words or other descriptive attributes collectively known as target points and a bid amount: a handle is a target point and a corresponding bid. Target points are organized in the manner of a pyramid - specific target points at the bottom of the pyramid feed into more general target points toward the top. A bid for a target point at the bottom of the pyramid is a first handle and automatically generates a bid for a more general target point above it – this becomes a second handle for the same listing.

An entity may enter bids (create multiple first handles) for multiple target points for the same listing message. When bids from multiple target points for a single message are forwarded to the same upper level target point, the values of the first handle bids are combined in a second handle, Comprising the upper level target point and the combined amount of the bids. The value assigned to the second handle is for comparison to other such second handles.

The present invention may be used in preparing lists of search results or in maximizing the value of advertising delivered to a portable wireless device in a defined geographic area.

Brief Description of the Drawings

Fig. 1 shows a schematic search and display as seen by a user.

Fig. 2A is a generic pyramid of target points.

Fig. 2B is an exemplary pyramid of a target point bid.

Fig. 2C shows a geographic zone dependant pyramid of target points.

Detailed Disclosure

The present invention comprises a list provider embodied as a node on the Internet linked to other nodes comprising listing entities, users and content and service providers. The list provider may further be connected to a wireless cellular data network. A listing entity may comprise an advertiser, business, group, association or individual seeking to deliver a text and/or graphics message to a user.

Using the present invention to target a listing, the listing entity accesses the site of the list provider. At the provider site the entity is presented with a form on which it may enter targeting information. Targeting information may comprise one or more of the following elements: 1) attributes describing a user's profile such as age, gender and income; 2) key words that a user might enter when conducting a search for listings; 3) information identifying a geographic zone or set of zones; 4) a time period. Collectively, such targeting information is called target points.

Information for correlating target points to a given set of users may be provided by the list provider itself or obtained from one or more third parties.

Differing target points correspond to different audience sizes and/or demographics. In the preferred embodiment the list provider enables the listing entity to know detailed information (historical and projected) about the audience corresponding to a given set of target points. For example, a target point sought by a listing entity may be a key word; the list provider may search its records to find the number of times the given key word was used in the past week.

In the preferred embodiment, the list provider establishes a minimum bid (or price) for each target point.

According to the invention a listing entity may browse hypothetical results before bidding. The results may show the popularity/frequency of target points. The results may further show a priority in ranking that would occur if a given bid were made.

As shown in Figure 1, user 5 performs a search by entering one or more target points 70 with list provider 80. Target points 70 comprises key words or other identifiable data that may be utilized in a search, including a specified geographic zone (a specified geographic zone may be entered by user 5 or may be detected from information emanating from the user's device or from a network operator affiliated with the device). Search results 88 are returned to user 5 organized such that the first listing corresponds to the highest value handle, the second listing to the second highest value handle and so on. Search results 88 may include listings without handles, listings for which bids have not been entered.

The list provider may limit the bidding process to a first time period. The bids may take effect in a subsequent and second time period. In this manner listing entities may compete for priority status in the first period while being protected in the second. The listing may therefore have a pre-determined expiration time. The time period may be defined as a total number of views of search results for the given target point. Time period may also correspond to a temporal unit, for example, one month.

When listing entities bid for the same target point, the highest bid is accorded priority status. In a presentation of search results to a user, the listing correlated to the highest bid appears first, ahead of the other listings. The second highest bid correlates to the second listing and so on. Listing A has four times the value of listing D and therefore appears above listing D.

A target point pulls an attached listing from a database when a user either directly or indirectly causes a correlation in a search session to occur. A bid on the target point enables its attached listing to be ranked, by bid value, against other listings attached to the same target point.

As shown in figures 2A-2C, target points are organized in the manner of a pyramid - specific target points at the bottom of the pyramid feed into more general target points toward the top. A bid for a target point at the bottom of the pyramid is a first handle and automatically generates a value for a second handle attached to a more general target point above it. In turn the value for the second handle may generate a value for a third handle above it. The list provider determines the number of handle levels. An entity may enter bids on multiple lower level target points for the same message and thereby create multiple, unique, first handles. When these lower level target points correspond to the same upper level target point, the bids are combined in the same second level handle - the value of the second handle is thus the total of the first handle bids it contains. Search result listings for upper level target points are prioritized in the same manner as lower level search listings – higher value handles receive priority. The value assigned to the second handle is for comparison purposes and does not constitute a specific cost to the listing entity.

The listing entity is charged only for the bids on lowest level target points – those corresponding to first handles. The charge is a fee for a given time period. A company bidding $1 on ten lower level target points for a single listing creates 10 first handles valued at $1 each. The fee for the time period is $10. If all ten lower level target points (first handles) feed into the same upper level target point, a second handle valued at $10 is created for the upper level target point. The creation and valuation of the second handle does not affect the fee. It is possible that the ten lower level target points may feed two or more upper level target points; in such case two or more second handles will be created and valued accordingly.

Either the list service provider or the listing entity may determine the upper level target points available for correlation with particular lower level target points. According to one example, the list provider selects the upper level target points and the listing entity decides which of those target points to use for respective correlations. The list provider may determine how many upper level correlations are allowed for each lower level target point. It may be desired that each lower level target point correlates to exactly one upper level target point. The list provider may allow additional correlations with each listing purchase. For example, one lower level target point may be allowed to correlate to two upper level target points.

For example, the list provider may allow one correlation for each lower level target point. In a variation this 1 to 1 correlation of lower level to upper level target points may be modified with the addition of a set quantity of extra target point correlations.

The present invention may be used in conjunction with other factors to determine positioning or presentation characteristics.

Prominence of a listing may be expressed by use of a larger font size, graphics or distinctive sound rather than, or in addition to, list position.

Listing entities may wish to have priority in search results for a specified geographic zone. To do this a geographic zone must be available for specification as a target point and such target point must be combined with other target points. The specification of a geographic target point may be automatically enabled with information supplied by a wireless network (the location of the cell transceiver being used for access to the list provider may be known and utilized), with information from the user's device (GPS coordinates may be sent in the course of performing a search), or by user input.

Geographic target points may be automatically weighted by proximity to the user such that a bid for a target point comprising a specific zone is valued at 100% of its bid amount when a user is in the zone and less than 100% when the user is outside of the zone. As the user moves further away from geographic zone specified as a target point the more the bid value is reduced.

Figure 2C shows an example of prioritization of search results with respect to specified geographic zones. Within both Zone A or Zone B a search may be performed and the results will be prioritized without consideration of the other zone. Each zone shows a group of lower level target points feeding into an upper level target point. Listing entities bid on lower level target points in either Zone A or Zone B – this bidding creates first and second handles applicable wholly within Zone A or Zone B. However, if a user performs a search for listings within both zones simultaneously the listings of the two zones are combined as if they comprised a single zone and prioritized accordingly.

An example application of the invention:

For a list of "donut stands, zone A" Andy's Donuts has paid $10 for the top listing and John's Donuts has paid nothing. These are the only donut stands in the zone; the list presents Andy's Donuts first and John's Donuts second. Meanwhile, Bill's Donuts has paid $20 for the top listing in Zone B, while Frank's Donuts and Hal's Donuts, also in Zone B paid nothing. Judy driving in a car in Zone A searches for "closest donuts" and receives Andy's listing first, followed by John's. Unsatisfied with the search results she next searches for "donuts in Zones A and B." Now she receives listings ordered (and paid for/sorted) as follows: Bill's ($20), Andy's ($10), John's (handicapped for Zone A proximity), then Frank's followed by Hal's (ordered alphabetically).

If Judy performs a search for "breakfast in Zones A and B" she may receive listings for fast food, grocery stores and coffee houses along with the listings for donut stands. In this broader category the listings are again first ordered by amounts paid for listings, followed by ordering by means of other fixed matrices. If the amount paid for a listing by Bill's Donuts is higher than amounts paid by fast food purveyors, grocery stores, etc., then the entry for Bill's Donuts will be delivered to Judy first when she inquires after "breakfast in Zones A and B".

As Judy widens her search, whether by adding zones further away from her location or by searching ever-broader categories, it becomes increasingly unlikely that Bill's Donuts will maintain its top listing position in the delivered search results. Inquiring after "food in Zones A-Z", Judy will likely find the listing for Bill's Donuts many places behind listings for restaurants, grocery stores and gourmet shops that are located many zones away.

"Donuts" comprises a lower level key word; likewise, the words "bagels" and "coffee" comprise lower level key words. These three lower level words all correspond to the upper level word,

"breakfast." Using the method of the present invention, Stan's Bagels and Donuts bids $10 for "donuts", $5 for "bagels" and $2 for "coffee". These bids on key words correspond to first level handles on the target points "donuts", "bagels" and "coffee." As shown in Figure 2B all three of Stan's bids are automatically forwarded to a second handle for the upper level target point "breakfast". Stan's second handle for "breakfast" has a value of $17. Stan's bid on "coffee" is automatically forwarded to a second handle for "restaurant". Stan's second handle for "restaurant" has a value of $2. Lower level bids are automatically correlated to upper levels. The $17 second handle for "breakfast" and the $2 second handle for "restaurant" are automatically transferred to a third handle for "food" wherein the third handle has a value of $19.

A user searching for "food" will thus find Stan's listing prioritized by a $19 handle. Likewise a $17 handle prioritizes Stan's listing if the search is for "breakfast", a $2 handle if the search is for "restaurant" and a $10 handle if the search is for "donut".

When a user performs a search using multiple key words, the values contained in the handles for each of the words are combined to form a higher-level handle value for the given combination of multiple key words. The resulting list of search results is prioritized with respect to this higher-level handle value. For example, in response to a search for "donuts and coffee", the listing for Stan's will have a third handle valued at $12 ($10 for "donuts" + $2 for "coffee"). And in response to a search for "breakfast donuts" the listing for Stan's will have a third handle valued at $27 ($17 for "breakfast" and $10 for "donuts").

Rather than entering a high bid for a single upper level listing, businesses have an incentive to bid on multiple lower lever key words. In this manner a business effectively performs a self-evaluation and bids highest on key words that correspond to its particular strengths.

The geographically oriented bidding method of the present invention may be applied to all types of businesses, services, offerings and events. In some applications, such as real estate, the system may limit its search to within the given category so that dissonance from irrelevant search results is eliminated.

When operating within a given category an alternate embodiment may be desired. In this embodiment the value for a second handle corresponding to a top level target point is fixed and listing entities are instructed to create first handles for lower level target points such that the combined value for all of the first handles equals the pre-determined second handle value. This arrangement is the reverse of that described above; here the second handle defines a value of the upper level target point. First handles are correlated to fit the values the second handles. This could enhance the comparative capabilities of the system as shown in the examples below.

Following is an example of values to first handles corresponding to lower level target points for a real estate listing; the combined value for the first handles equals a pre-determined second handle value.

Home Listing Form: Home Price range $400,000 - $500,000, Geographic Zone "X"
Instructions to Realtor (listing entity):
Below are listed a series of key words describing various features typical of homes in Zone "X". Place bids on the features that differentiate this home from other homes. Bid on all of the features which apply. If a home does not have the feature the bid should be zero. The total of the bids must equal $40. You may also place a bid on "Quality Throughout" to indicate excellence in all of the features and automatically allocate an equal amount to each feature.

Living Room	$____
Dining Room	$____
Kitchen	$____
Bathrooms	$____
Master Bedroom	$____
Guest Room	$____
Garden	$____
Schools	$____
Pool	$____
View	$____
Quality Throughout	$____
TOTAL	$40

Following is an example of entries on the listing form for homes A, B and C using the method above:

KEY WORDS	*Home A*	*Home B*	*Home C*
Living Room	5	4	10
Dining Room	5	4	0
Kitchen	10	4	10
Bathrooms	2	4	2
Master Bedroom	0	4	0
Guest Room	0	4	0
Garden	3	4	0
Schools	0	4	0
Pool	5	4	3
View	10	4	15
Quality Throughout	-	Select	-
TOTAL	40	40	40

There is no limitation on the number of key words that may be used. The method for selecting a fixed bid amount may be determined with regard to alternative advertising and listing opportunities.

Home A's first handle value for View is $10, Home B's is $4 and Home C's is $15. Home A's first handle value for Pool is $5, Home B's is $4 and Home C's is $3. To perform a search of home listings a user is instructed to enter key words that correspond to those used on the listing form. Combining multiple key words causes the values of the associated first handles to be combined in a third handle that organizes the listings by third handle values.

Thus, a search for "View, Pool" creates a list as follows:

Home C ($18)
Home A ($15)
Home B ($8)

Continuing the example, if a user enters the terms "Living Room, Dining Room, Kitchen, Master Bedroom, Schools" the list would be presented as follows:

Home A ($20), Home B ($20), Home C ($20) = tie.

In the event of a tie an additional method is used for organizing results to enable presentation in a vertical list format. The method may be date of entry onto the list, most recent listings first followed by older listings or vice versa. Another method for organizing tied results is to give priority to those listings most proximate to the user performing the search.

This method of the invention may be used in conjunction with multiple listings services.

The embodiment described above could be applied to classified and bulletin board listings of items for sale and events: cars, computers, concerts, yard sales and wine tastings. Searches may be performed for a particular zone or for multiple zones. In any search, the listing with the highest value handle receives priority listing followed by the listing with the next highest value handle.

Handles automatically expire at the end of their given time period. The value of a target point bid drops to zero unless renewed. Listings with zero value handles may be dropped from the list entirely or relegated to lower level status, appearing after listings with handles of minimum or greater value.